What is claimed is:

1. An isolated nucleic acid comprising:

(i) the nucleotide sequence of SEQ ID NO:1, (ii) the nucleotide sequence of SEQ ID NO:2, (iii) a nucleotide sequence that is a degenerate variant of the nucleotide sequence of SEQ ID NO:2, (iv) a nucleotide sequence that encodes a polypeptide with the amino acid sequence of SEQ ID NO:3, (v) a nucleotide sequence that encodes a polypeptide with the amino acid sequence of SEQ ID NO:3 with conservative amino acid substitutions; (vi) a nucleotide sequence that encodes a polypeptide with the amino acid sequence of SEQ ID NO:3 with moderately conservative amino acid substitutions, or (vii) a nucleotide sequence that is the complement of the nucleotide sequence of any one of (i) - (vi).

2. An isolated nucleic acid comprising a nucleotide sequence that hybridizes under high stringency conditions to a probe, the sequence of which probe (i) consists of SEQ ID NO:2, (ii) encodes a polypeptide having the sequence of SEQ ID NO:3, (iii) encodes a polypeptide having the sequence of SEQ ID NO:3 with conservative amino acid substitutions, or (iv) is the complement of (i) - (iii), wherein said isolated nucleic acid is nonidentical in sequence to GenBank accession no. AA993492 and is less than 50 kb in length.

3. An isolated nucleic acid comprising a nucleotide sequence that hybridizes under moderate stringency conditions to a probe, the sequence of which probe (i) consists of SEQ ID NO:2, (ii) encodes a

polypeptide having the sequence of SEQ ID NO:3, (iii) encodes a polypeptide having the sequence of SEQ ID NO:3 with conservative amino acid substitutions; or (iv) is the complement of (i) - (iii), wherein said isolated nucleic acid is nonidentical in sequence to GenBank accession no. AA993492 and is less than 50 kb in length.

4. An isolated nucleic acid comprising a nucleotide sequence that encodes at least 8 contiguous amino acids of SEQ ID NO:3, wherein said isolated nucleic acid is nonidentical in sequence to GenBank accession no. AA993492 and is less than 50 kb in length.

5. An isolated polynucleotide comprising a fragment of at least 17 nucleotides of the isolated nucleic acid of any one of claims 1 - 4, wherein said isolated nucleic acid is nonidentical in sequence to GenBank accession no. AA993492 and is less than 50 kb in length.

6. The isolated nucleic acid of any one of claims 1 - 4, wherein said nucleic acid, or the complement of said nucleic acid, encodes a polypeptide having ATPase activity.

7. The isolated nucleic acid of claim 5, wherein said nucleic acid, or the complement of said nucleic acid, encodes a polypeptide having ATPase activity.

8. The isolated nucleic acid of any one of claims 1 - 4, wherein said nucleic acid, or the complement of said nucleic acid, encodes a polypeptide capable of binding calmodulin.

9. The isolated nucleic acid of claim 5, wherein said nucleic acid, or the complement of said nucleic acid, encodes a polypeptide capable of binding calmodulin.

10. The isolated nucleic acid of any one of claims 1 - 4, wherein said nucleic acid, or the complement of said nucleic acid, is expressed in skeletal muscle and heart muscle.

11. The isolated nucleic acid of claim 5, wherein said nucleic acid, or the complement of said nucleic acid, is expressed in skeletal muscle and heart muscle.

12. The isolated nucleic acid molecule of any one of claims 1 - 4, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

13. The isolated nucleic acid molecule of claim 5, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

14. A replicable vector comprising an isolated nucleic acid molecule of any one of claims 1 - 4.

15. A replicable vector comprising an isolated nucleic acid molecule of claim 5.

16. The isolated nucleic acid molecule of any one of claims 1 - 4, attached to a substrate.

17. The isolated nucleic acid molecule of claim 5, attached to a substrate.

18. A host cell transformed to contain the nucleic acid molecule of any one of claims 1 - 4, or the progeny thereof.

19. A host cell transformed to contain the nucleic acid molecule of claim 5, or the progeny thereof.

20. A method for producing a polypeptide, the method comprising: culturing the host cell of claim 18 under conditions in which the protein encoded by said nucleic acid molecule is expressed.

21. An isolated polypeptide produced by the method of claim 20.

22. An isolated polypeptide selected from the group consisting of: (a) an isolated polypeptide comprising the amino acid sequence of SEQ ID NO:3; (b) an isolated polypeptide comprising a fragment of at least 8 amino acids of SEQ ID NO: 3; (c) an isolated polypeptide according to (a) or (b) in which at least 95% of deviations from the sequence of (a) or (b) are conservative substitutions; and (d) an isolated

polypeptide having at least 65% amino acid sequence identity to the isolated polypeptide of (a) or (b).

23. An isolated antibody or antigen-binding fragment or derivative thereof the binding of which can be competitively inhibited by a polypeptide of claims 22.

24. A method of identifying binding partners for a polypeptide according to claim 22, the method comprising:

contacting said polypeptide to a potential binding partner; and

determining if the potential binding partner binds to said polypeptide.

25. The method of claim 24, wherein said contacting is performed in vivo.

26. A method of modulating the expression of a nucleic acid according to claim 1, the method comprising:

administering an effective amount of an agent which changes the expression of a nucleic acid according to claim 1.

27. A method of modulating at least one activity of a polypeptide according to claim 22, the method comprising:

administering an effective amount of an agent which modulates at least one activity of a polypeptide according to claim 21 or 22.

28. A transgenic non-human animal or transgenic plant modified to contain a nucleic acid molecule of any one of claims 1 - 4.

29. A transgenic non-human animal or transgenic plant modified to contain a nucleic acid molecule of claim 5.

30. A transgenic non-human animal unable to express the endogenous orthologue of the polypeptide of claim 22.

31. A method of diagnosing a disease caused by mutation in human hGDMLP-1, comprising:

detecting said mutation in a sample of nucleic acids that derives from a subject suspected to have said disease.

32. A method of diagnosing or monitoring a disease caused by altered expression of human hGDMLP-1, comprising:

determining the level of expression of human hGDMLP-1 in a sample of nucleic acids or proteins that derives from a subject suspected to have said disease, alterations from a normal level of expression providing diagnostic and/or monitoring information.

33. A pharmaceutical composition comprising the nucleic acid of any one of claims 1 - 4 and a pharmaceutically acceptable excipient.

34. A pharmaceutical composition comprising the nucleic acid of claim 5.

35. A pharmaceutical composition comprising the polypeptide of claim 22 and a pharmaceutically acceptable excipient.

36. A pharmaceutical composition comprising the antibody or antigen-binding fragment or derivative thereof of claim 23 and a pharmaceutically acceptable excipient.

37. A purified agonist of the polypeptide of claim 22.

38. A purified antagonist of the polypeptide of claim 22.

39. A pharmaceutical composition comprising the agonist of claim 37.

40. A pharmaceutical composition comprising the antagonist of claim 38.

41. A method for treating or preventing a disorder associated with decreased expression or activity of human hGDMLP-1, the method comprising administering to a subject in need of such treatment an effective amount of the pharmaceutical composition of any of claims 33 - 35 or 37.

42. A method for treating or preventing a disorder associated with increased expression or activity of human hGDMLP-1, the method comprising administering to a subject in need of such treatment an

effective amount of the pharmaceutical composition of claim 36 or claim 40.

43. A diagnostic composition comprising the nucleic acid of any one of claims 1 - 4, said nucleic acid being detectably labeled.

44. A diagnostic composition comprising the nucleic acid of claim 5, said nucleic acid being detectably labeled.

45. A diagnostic composition comprising the polypeptide of claim 22, said polypeptide being detectably labeled.

46. A diagnostic composition comprising the antibody or antigen-binding fragment or derivative thereof of claim 23.

47. The diagnostic composition of claim 46, wherein said antibody or antigen-binding fragment or derivative thereof is detectably labeled.

48. The diagnostic composition of claim 43, wherein said composition is further suitable for in vivo administration.

49. The diagnostic composition of claim 44, wherein said composition is further suitable for in vivo administration.

50. The diagnostic composition of claim 45,

wherein said composition is further suitable for in vivo administration.

51. The diagnostic composition of claim 46, wherein said composition is further suitable for in vivo administration.

52. The diagnostic composition of claim 47, wherein said composition is further suitable for in vivo administraiton.

53. A microarray wherein at least one probe of said array is a nucleic acid according to any one of claims 1 - 4.

54. A microarray wherein at least one probe of said array is a nucleic acid according to claim 5.

55. A method for detecting a target nucleic acid in a sample, said target being a nucleic acid of any one of claims 1 - 4, the method comprising:

a) hybridizing the sample with a probe comprising at least 30 contiguous nucleotides of a sequence complementary to said target nucleic acid in said sample under hybridization conditions sufficient to permit detectable binding of said probe to said target, and

b) detecting the presence or absence, and optionally the amount, of said binding.

56. A method for detecting a target nucleic acid in a sample, said target being a nucleic acid of claim 5, the method comprising:

a) hybridizing the sample with a probe comprising at least 30 contiguous nucleotides of a sequence complementary to said target nucleic acid in said sample under hybridization conditions sufficient to permit detectable binding of said probe to said target, and

b) detecting the presence or absence, and optionally the amount, of said binding.

57. A fusion protein, said fusion protein comprising a polypeptide of claim 22 fused to a heterologous amino acid sequence.

58. The fusion protein of claim 57, wherein said heterologous amino acid sequence is a detectable moiety.

59. The fusion protein of claim 58, wherein said detectable moiety is fluorescent.

60. The fusion protein of claim 57, wherein said heterologous amino acid sequence is an Ig Fc region.

61. A method of screening for agents that modulate the expression of human hGDMLP-1, the method comprising:

contacting a cell or tissue sample believed to express human hGDMLP-1 with a chemical or biological agent, and then

comparing the amount of human hGDMLP-1 expression with that of a control.